

AMENDMENTIN THE CLAIMS:

Cancel claims 1, 6, 10, 13, 15-16 and 18.

Amend Claim 3 as follows:

3. (Amended) A heat exchange panel to be conformed to a complex shape, comprising:

a first layer of a flexible material, which layer is conformable to a complex shape;

a second layer of a flexible material, which layer also is conformable to a complex shape and has a common border with the first layer;

a border seal sealing ^{substantially an entire periphery of} the first layer and the second layer at said border; and

said first and second layers being directly secured together interiorly of said border at a multiplicity of points to form a dot matrix of attachments organized into first imaginary lines and second imaginary lines for connecting dots of said dot matrix to nearest dots of said dot matrix, said first imaginary lines crossing said second imaginary lines at an angle falling in a range of between about 70° to about 100°;

wherein:

the border seal ^{consists of} includes curvilinear ripples having ripple cycle lengths substantially shorter than the length of said border.

Amend Claim 8 as follows:

8. (Amended) A method of manufacturing a heat exchange panel which conforms to a complex shape comprising steps of:

sealing a first layer of a flexible material, which layer is conformable to a complex shape to a second layer of a flexible material at a common border, which second layer is also conformable to a complex shape; and

sealing said first layer to said second layer interiorly of said border at a multiplicity of points to form a dot matrix of attachments, said dot matrix organized into first imaginary lines and second imaginary lines for connecting dots of said dot matrix to nearest dots

of said dot matrix, said first imaginary lines crossing said second imaginary lines at an angle falling in a range of between about 70° to about 100°;

wherein:

the first step of sealing includes sealing said first layer to said second layer with a border seal ^{consisting of} having curvilinear ripples having ripple cycle lengths substantially shorter than the length of said border.

Amend Claim 9 as follows:

9. (Amended) A method of manufacturing a heat exchange panel which conforms to a complex shape comprising steps of:

sealing a first layer of a flexible material, which layer is conformable to a complex shape to a second layer of a flexible material at a common border, which second layer is also conformable to a complex shape; and

sealing said first layer to said second layer interiorly of said border at a multiplicity of points to form a dot matrix of attachments, said dot matrix organized into first imaginary lines and second imaginary lines for connecting dots of said dot matrix to nearest dots of said dot matrix, said first imaginary lines crossing said second imaginary lines at an angle falling in a range of between about 70° to about 100°;

further comprising steps of:

constructing first and second ports for passing a fluid into and out of said panel;

and

sealing said first layer to said second layer with at least one fence between said first port and said second port, said fence having curvilinear ripples having ripple cycle lengths substantially shorter than the length of said fence.

Amend Claim 12 as follows:

12. (Amended) A method for exchanging heat with a complex shape, comprising steps of:

receiving a fluid flow in a first port;

restricting passage of said fluid flow to between first and second layers of flexible material which are conformable to a complex shape;

substantially
D further restricting said passage with a border seal at a common border between said first and said second layers *along substantially an entire periphery thereof*

passing said fluid flow about a multiplicity of points interiorly of said first and second layers, said first and second layers being directly secured together to form a dot matrix of attachments organized into first imaginary lines and second imaginary lines connecting dots of said dot matrix to nearest dots of said dot matrix, said first imaginary lines crossing said second imaginary lines at an angle falling in a range of between about 70° to about 110°; and

issuing said fluid flow through a second port;

wherein:

consists of
D said border seal *includes* curvilinear ripples having ripple cycle lengths substantially shorter than the length of said border.

Amend Claim 14 as follows:

14. (Amended) A method for exchanging heat with a complex shape, comprising steps of:

receiving a fluid flow in a first port;

*C** restricting passage of said fluid flow to between first and second layers of flexible material which are conformable to a complex shape;

further restricting said passage with a border seal at a common border between said first and said second layers;

passing said fluid flow about a multiplicity of points interiorly of said first and second layers, said first and second layers being directly secured together to form a dot matrix of attachments organized into first imaginary lines and second imaginary lines connecting dots of said dot matrix to nearest dots of said dot matrix, said first imaginary lines crossing said second imaginary lines at an angle falling in a range of between about 70° to about 110°; and

issuing said fluid flow through a second port;

further restricting said fluid flow with at least one fence between said first port and said second port;

wherein:

Sub D1 said fence includes curvilinear ripples having ripple cycle lengths substantially shorter than the length of the sealing fence.

Amend Claim 17 as follows:

C6
D
D
17. (Amended) A system for exchanging heat with a complex shape; comprising:
a heat transfer device for one of cooling or heating a fluid;
a pump/reservoir coupled to the heat transfer device for storing and pumping said fluid; and
a heat exchange panel coupled to the pump/reservoir and the heat transfer device, the heat exchange panel including a first layer of a flexible material conformable to a complex shape, a second layer of a flexible material also conformable to a complex shape, a border seal substantially an entire periphery of sealing said first layer and said second layer together at said border, a first port for receiving said fluid, a second port contiguous with said first port for issuing said fluid, and said first and second layers being directly secured together interiorly of said border seal to form a dot matrix of attachments between said first and second layers, said dot matrix organized into first imaginary lines and second imaginary lines for connecting dots of said dot matrix to nearest dots of said dot matrix, said first imaginary lines crossing said second imaginary lines at an angle falling in a range of between about 70° to about 100°;
wherein: one of (i) said first lines and (ii) said second lines has an angle in a range of about 25° to about 65° with respect to a nominal direction of a flow of said fluid; and
wherein:
said border seal consists of includes curvilinear ripples having ripple cycle lengths substantially shorter than the length of said border.

Amend Claim 19 as follows:

C6
19. (Amended) A system for exchanging heat with a complex shape; comprising:
a heat transfer device for one of cooling or heating a fluid;
a pump/reservoir coupled to the heat transfer device for storing and pumping said fluid; and

<sup>Sub
D1</sup> a heat exchange panel coupled to the pump/reservoir and the heat transfer device, the heat exchange panel including a first layer of a flexible material conformable to a complex shape, a second layer of a flexible material also conformable to a complex shape, a border seal sealing said first layer and said second layer together at said border, a first port for receiving said fluid, a second port contiguous with said first port for issuing said fluid, and said first and second layers being directly secured together interiorly of said border seal to form a dot matrix of attachments between said first and second layers, said dot matrix organized into first imaginary lines and second imaginary lines for connecting dots of said dot matrix to nearest dots of said dot matrix, said first imaginary lines crossing said second imaginary lines at an angle falling in a range of between about 70° to about ¹¹⁰100°;

wherein: the heat exchange panel further includes at least one fence interiorly of the border sealing said first layer and said second layer, said fence cooperating with said border to define a fluid flow channel within said panel; and

wherein:

said fence includes curvilinear ripples having ripple cycle lengths substantially shorter than the length of said fence.